

DO NOT ENTER: /T.D./ (11/21/2011)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):	Takatomo Nishino	ATTY. DOCKET NO. 09792909-5672
SERIAL NO.	10/664,446	GROUP ART UNIT: 1745
FILING DATE:	September 18, 2003	EXAMINER: Tracy Mae Dove
INVENTION:	"ANODE MATERIAL AND BATTERY USING SAME"	

**AMENDMENT "F"**

Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

S I R:

This Amendment "F" is filed in response to the Final Office Action of August 18, 2011.  
Please reconsider the application in view of the amendment and remarks presented below.

## IN THE CLAIMS

This listing of claims replaces all prior listings.

1. (Currently Amended) An anode material, comprising:  
a composite material including a base material physically bonded by Van [[van]] der Waals forces to a carbonaceous material,  
wherein,  
the base material includes tin (Sn) and at least cobalt (Co) ~~and or iron (Fe)~~,  
a mass ratio of the carbonaceous material to the base material is in a range from and including 0.1 to and including 8.0 for the carbonaceous material relative to 100 for the base material, and  
the physical bonding of the base material to the carbonaceous material effected by applying a compressive force and a shearing force to at least a part of a surface of a base material when the composite material is formed.
2. (Previously Presented) An anode material according to claim 1, wherein the base material further includes at least one kind selected from the group consisting of scandium (Sc), titanium (Ti), vanadium (V), chromium (Cr), manganese (Mn), nickel (Ni), copper (Cu), zinc (Zn), boron (B), aluminum (Al), gallium (Ga), indium (In) and silver (Ag).
3. (Original) An anode material according to claim 1, wherein the carbonaceous material is acetylene black.
4. (Original) An anode material according to claim 1, wherein the carbonaceous material is artificial graphite.
5. (Original) An anode material according to claim 1, wherein the carbonaceous material is carbon fiber.
6. (Cancelled)

7. (Currently Amended) A battery, comprising:

a cathode;

an anode; and

an electrolyte,

wherein,

the anode comprises a composite material including a base material physically bonded by Van[[van]] der Waals forces to a carbonaceous material,

the base material including tin (Sn) and at least cobalt (Co) ~~and or iron~~ (Fe),

a mass ratio of the carbonaceous material to the base material is within a range from and including 0.1 to and including 8.0 for the carbonaceous material relative to 100 for the base material, and

the physical bonding of the base material to the carbonaceous material effected by applying a compressive force and a shearing force to at least a part of a surface of a base material when the composite material is formed.

8. (Previously Presented) A battery according to claim 7, wherein the base material further includes at least one kind selected from the group consisting of scandium (Sc), titanium (Ti), vanadium (V), chromium (Cr), manganese (Mn), nickel (Ni), copper (Cu), zinc (Zn), boron (B), aluminum (Al), gallium (Ga), indium (In) and silver (Ag).

9. (Original) A battery according to claim 7, wherein the carbonaceous material is acetylene black.

10. (Original) A battery according to claim 7, wherein the carbonaceous material is artificial graphite.

11. (Original) A battery according to claim 7, wherein the carbonaceous material is carbon fiber.

12. (Cancelled)

## REMARKS

Claims 1-5 and 7-11 are pending and under consideration in the above-identified application. Claims 6 and 12 were previously cancelled and remain cancelled.

In the Final Office Action of August 18, 2011, claims 1-5 and 7-11 were rejected. With this amendment, claims 1, 2, 7 and 8 are amended. No new matter has been added as a result of the amendment.

Applicant is in the process of obtaining signatures for a corrected declaration and will submit the declaration to the U.S.P.T.O. as soon as possible.

### **I. 35 U.S.C. § 112**

Claims 1-5 and 7-11 were rejected under 35 U.S.C. § 112, second paragraph.

With this amendment, claims 1 and 7 are amended taking into consideration the Examiner's comments. Accordingly, the Applicant respectfully requests the withdrawal of this rejection.

### **II. 35 U.S.C. § 102 Anticipation Rejection of Claims/35 U.S.C. § 103 Obviousness Rejections of the Claims**

Claims 1-5 and 7-11 were rejected under 35 U.S.C. 102(b)/103(a) as being anticipated by, and alternatively, unpatentable over Kawakami et al. (U.S. Pat. No. 6,432,585) ("Kawakami"). Applicant respectfully traverses the rejections.

Independent claims 1 and 7 each require a composite material which includes a base material and a carbonaceous material. Additionally, the independent claims require a specific relationship between the base material and the carbonaceous material, namely that the mass ratio of the carbonaceous material to the base materials is from and including 0.1 to and including 8.0 for the carbonaceous material relative to 100 for the base material. The mass ratio relationship required by the claims improves the capacity and cycle characteristics of the battery. Specification, page 8 & Table 1.

Kawakami does not teach or even fairly suggest the mass ratio relationship required by the claims. Rather, Kawakami discloses individual weight percentages of a host material and an electrically conductive auxiliary material. More specifically, Kawakami requires that the host matrix material is 35 wt % or more and that the conductive auxiliary material is 1 and 30 wt%. See, U.S. Pat. No. 6,432,585, Col. 12, l. 46-Col. 13, l. 14. As such, Kawakami only discloses individual wt% requirements for the host material and conductive material and does not teach or even fairly suggest a relationship between the components as required by the claims, i.e. a ratio

of the carbonaceous material in the electrically conductive auxiliary layer to the host matrix material.

Furthermore, Kawakami does not teach or even fairly suggest a composite material that includes tin (Sn) and at least cobalt (Co) as required by claims 1 and 7. Therefore, because Kawakami fails to disclose or even fairly suggest every feature of claims 1 and 7, the rejection of claims 1 and 7 cannot stand. Additionally, dependent claims 2-5 and 8-11 are allowable for at least the same reasons.

### **Conclusion**

It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited.

If any further fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account No. 19-3140.

Respectfully submitted,

Date: November 18, 2011

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